Framework

$$Y_t = I_t + S_t + U_t$$

National income Y is equal to the sum of consumption goods produced for sale U, inventory stock S, and investment goods I. This model fixes investment good production to such that $I_t = \bar{I}$.

Inventory stock is adjusted by producers every period in order to achieve a desired level of inventory $\hat{Q}_t$. S_t inventory is purchased to raise inventory stock to this desired level:

$$S_t = \hat{Q}_t - Q_{t-1}$$